

CLAIMS

1. An SiC-formed material produced by the CVD method using nitrogen gas together with raw material gases, characterized by possessing a specific gravity of 3.15 or more, light transmittance of 1.1 to 0.05%, and resistivity of 3×10^{-3} to 10^{-5} Ωm .

2. A method of producing an SiC-formed material comprising producing an SiC film on the surface of a substrate by the CVD method using nitrogen gas together with raw material gases, and removing the substrate to obtain the SiC-formed material, wherein the raw material gas concentration, in terms of the ratio of the raw material flow rate (l/min) to the carrier gas flow rate (l/min) introduced into the CVD reaction chamber in which the substrate is located, is 5-15 vol%, the nitrogen gas concentration, in terms of the ratio of the nitrogen gas flow rate (l/min) to the raw material gas flow rate (l/min), is 10-120 vol%, the raw material gas retardation time defined by the following formula is controlled to 7-110 seconds, and the deposition rate is controlled to 20-400 $\mu\text{m}/\text{hour}$,

Raw material gas resident time (sec) =

$$\{(\text{Effective reaction volume in the reaction chamber (l)}) / (\text{raw material gas flow rate (l/min)})\} \times \{(273+20) / (273 + \text{Reaction temperature } (^{\circ}\text{C}))\} \times 60.$$